

THE SPREAD OF COVID-19 IN WORKPLACES

Covid-19 is a virus that spreads primarily from person to person in three ways:

- 1) through close and direct contact with an infected person;
- 2) breathing in the small droplets excreted by a person infected with the virus;
- 3) touching surfaces contaminated by the virus.

The disease spreads through the droplets expelled when a person with Covid-19 coughs, sneezes, speaks or breaths, as these droplets can:

- land on surfaces around the infected person and then contaminate the hands of anyone who might touch those surfaces (indirect contact); be inhaled by anyone having close contact with the infected person or staying in a contaminated environment.

Direct contact with respiratory secretions seems to be, in these situations, the main mode of transmission; to date, according to official sources there is no evidence of a possible airborne transmission (bio-aerosol).

Description of the picture – According to the WHO, exposure to the virus derives mainly by direct or indirect contact with the respiratory secretions (droplets) of an infected person (in orange); in blue, airborne contaminated droplets: a transmission mode with no scientific evidence to date, according to official sources (adaptation of the picture provided by Francesco Franchimon)

VENTILATION AND VIRUS TRANSMISSION

In order to minimize the effects of the presence of an infected person on your premises, it is advisable to reduce the occupancy level (e.g. from 1 person per 7m² to 1 person per 25 m²), to consequently reduce the risk of airborne transmission.

Considered that outdoor air is supposedly not contaminated by the virus, it is recommended to open windows and doors where no ventilation system is present; if an air conditioning or ventilation system is present, then it is preferable to keep it running 24/7 potentially as high as 100% so as to remove particles suspended in the air (aerosol) and contain the contamination of surfaces.

Ventilation and air filtration can be operated by specific systems (ventilation only) or by air conditioning systems (combined air-and-water systems with primary air and all-air-conditioning systems); fresh air dilution and highly efficient filters can reduce the presence of particulate and bio-aerosol, helping contain the risk of contagion. It is always advisable to consider the opportunity or the necessity to turn off air recirculation and to prevent fresh air from being contaminated by the air extracted or expelled from the rooms.

SPECIAL SANITIZATION OF HVAC SYSTEMS AND AIR DUCTS

To date, there is no evidence of the necessity of a special sanitization of HVAC systems. Anyway, regular maintenance and cleaning should follow precise procedures and be carried out by a qualified technician using Personal Protective Equipment. Any operation carried out incorrectly or without using PPE may result in an increase of the contagion risk.